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Comprehensive review of the whole question of peacekeeping operations in all their aspects

Security Council
Seventy-first year

Letter dated 30 November 2016 from the Permanent Representative of Senegal to the United Nations addressed to the Secretary-General

I have the honour to transmit herewith the concept note entitled "Technology and innovation in peacekeeping", which was drafted for the meeting of the Working Group on Peacekeeping Operations that I chaired on 28 April 2016 (see annex).

I should be grateful if you would have this letter and its annex circulated as a document of the General Assembly, under agenda item 51, and of the Security Council.

(*Signed*) Fodé **Seck**
Ambassador
Permanent Representative

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Annex to the letter dated 30 November 2016 from the Permanent Representative of Senegal to the United Nations addressed to the Secretary-General

Concept note on the theme "Technology and innovation in United Nations peacekeeping" for the Working Group on Peacekeeping Operations

[Original: English]

I- BACKGROUND

The threats faced by United Nations peacekeeping operations are evolving rapidly. Mandates are becoming increasingly complex and the operating environments into which missions deploy are ever more challenging. It is therefore critical to ensure that peacekeeping operations possess the right tools to meet the challenges they face, so that peacekeeping remains an efficient and effective enterprise in years to come. In mid-2014 an Expert Panel on Technology and Innovation in UN Peacekeeping was appointed by the Under-Secretaries-General of Peacekeeping Operations and Field Support to consider how modern technology could be leveraged to enhance the operational effectiveness of peacekeeping missions and overcome some of the emerging challenges they face. The Panel's report, released in February 2015, argues for wider deployment of technology in peacekeeping and proposes a new approach that enables innovative problem solving. The Panel's message was echoed by the High-Level Independent Panel on Peace Operations, which recommended that the UN "embrace innovation and the responsible use of technology to bridge the considerable gap between what is readily available to and appropriate for UN peace operations and what is actually in use in the field today". In his report on the implementation of the High-Level Panel's recommendations, the Secretary-General pledged that technology would be a key element of the peacekeeping reform agenda. He stated also his conviction that the adoption of widely available and cost-effective technologies can make huge strides towards improving the safety and security of United Nations personnel and assets, as well the capacity to protect civilians and to implement mandates effectively. Furthermore, he underlined that the Department of Peacekeeping Operations and the Department of Field Support have put in place a strategy to implement the key recommendations of the recent Expert Panel on Technology and Innovation in United Nations Peacekeeping.

II- OVERVIEW OF DPKO/DFS STRATEGY AND TECHNICAL AREAS OF WORK

DPKO/DFS strategy

This increased institutional focus on and support for technology in peacekeeping operations has provided a strong basis for significant steps taken by DPKO/DFS to enhance its work in this area and has precipitated a shift in DFS' focus toward strategic, field-focused technologies. In 2015, DPKO/DFS elaborated a strategy to implement the recommendations of the Expert Panel and initiated a progressive exercise to introduce new tools, working methods and operational approaches to technology in peacekeeping. The strategy, which operates in line with the broader ICT Strategy for the Secretariat, seeks to bring about a cultural shift towards embracing technology and innovation, including through continual and strengthened cooperation and dialogue with Member States and other stakeholders. In addition to implementing the technical recommendations of the Expert Panel, the strategy seeks to deliver a new approach that puts missions, users and substantive offices in a central role for identifying technological solutions. The strategy expands the Partnership for Technology in Peacekeeping, which provides a platform for dialogue and cooperation with Member States and other partners around technology for peacekeeping. The second annual Symposium for the Partnership was held in Vienna, Austria, in September 2015 and brought together representatives of over 30 Member States as well as academic institutions to explore creative and collaborative opportunities to enhance technology efforts in peacekeeping missions.

Technical areas of work

The follow are several key areas where the DPKO/DFS strategy seeks to achieve significant and immediate progress to overcome critical operational challenges.

Safety and security

Comprehensive technology suites appropriate to different mission environments can significantly improve safety and security of UN personnel, infrastructure and assets and enhance camp perimeter surveillance and control. DPKO/DFS is currently piloting the use of day and night optical sensors mounted on both fixed and mobile platforms, including balloons and aerostats which offer long-range, 360 degree visibility around their installation, providing us a longer horizon from a position of safety. Similar technology applied to mobile platforms

like quadcopters also supports more effective and safer patrolling and convoy protection. By using a combination of sensors, CCTV, motion sensors and infrared and ground radar together with mobile surveillance systems, missions will be in a better position to identify threats more quickly and respond more rapidly. In response to the High Level Panel on Technology and Innovation, UNMAS updated the "Landmine and Explosive Remnant of War Safety" mobile phone application to include information on IEDs. UNMAS is developing a strategy for sharing lessons learned, in cooperation with Member States with experience in IED threat mitigation. In contexts where prohibitions exist on the use of traditional explosive disposal tools, UNMAS is innovative, for example, by using a pyrotechnic torch that safely disposes of explosive remnants of war, including cluster munitions, without the need for explosives.

Operational communications

At the heart of command and control communications is reliable connectivity and related enabling technologies. To enhance field connectivity beyond existing satellite networks, DFS is exploring a variety of new technologies to substantially increase the available coverage and bandwidth to field missions with the specific goal of reaching the "last mile" of operations, especially in austere environments where commercial terrestrial links are unavailable or unreliable. In this regard DFS is adding the use of newly available next-generation medium earth orbiting satellite networks to provide increased bandwidth to field missions at a lower cost, including to remote areas that were previously difficult to reach. This will enable a new breed of communication tools to capture and share information in missions.

Situational awareness and information-led operations

Better-informed decision making is critical to safe and effective mandate implementation and better information gathering, verification, analysis and reporting is crucial to information-led operations, situational awareness and a common operating picture. Implementing new technologies in these areas is an important part of DPKO/DFS efforts to expand the capacity of peacekeeping missions to identify conduct information-led operations and, where necessary and appropriate, to enable missions to gather information and analyse intelligence to ensure the safety and security of peacekeepers and the implementation of the mandate. This increasingly includes the use of Unarmed Unmanned Aerial Vehicles by peacekeeping operations to identify threats, collect relevant data and better understand their operating environments. New technologies also offer significant opportunities to strengthen the uniformed capabilities of peacekeeping operations to address emerging rule of law threats, including transnational

organized crime. To better manage the vast amounts on event-based data gathered by peacekeeping missions and support analysis and decision-making, DPKO/DFS has rolled out Sage, a standardised, web-based incident tracking system that makes use of mobile applications and GIS visualization. UNMAS also now uses state-of-the-art technologies and information management systems, such as the Information Management System for Mine Action, to help facilitate mine action activities. Expanded use of GIS solutions will combine situational awareness regarding incidents together with mission-specific operational on detailed mission-specific base maps to support strategic and operational decision making, scenario modelling and planning.

Reducing peacekeeping's environmental footprint

DFS strives to deploy responsible missions that achieve maximum efficiency in their use of natural resources and operate at minimum risk to people, societies and ecosystems, contributing to a positive impact on these wherever possible. The systematic integration of alternative energy sources across all aspects of field operations and the incorporation of a life-cycle approach will significantly decrease missions' environmental footprints and reduce long-term costs. The use of alternative energy sources across all aspects of field operations will not only reduce operational costs in the long run, including the related supply chain for fuel delivery, but also supports more resilient operations. By shifting data centres and ICT infrastructure wherever possible to the UN private cloud hosted in the Global Service Centre (GSC), DFS/DPKO are able to maintain a light ICT infrastructure footprint in the field and reduced power demands. The Global Service Centre data centres, which have been recognized for their green use of solar power, in turn have a positive exponential effect on the field missions who have shifted their data hosting to the GSC.

III- CHALLENGES

As peacekeeping operations have increased their use of strategic technologies, a number of challenges have arisen which affect missions' ability to fully realize the potential of these technologies.

Ensuring full and consistent integration of new technologies

To integrate new technologies in peacekeeping operations, all personnel must have access to training in the operation and maintenance of new systems and tools deployed throughout missions to meet emerging requirements and implement innovative solutions. This requires a holistic approach that sets technical solutions within a larger concept of operations to ensure that personnel using the technologies are capable of operating them and taking appropriate action on the information they receive. This presents significant and unique challenges for peacekeeping operations, given the wide diversity of equipment and technological capacity among military and police units deployed to the field. The DPKO/DFS strategy therefore foresees development of exercises, new specialised training materials, and partnerships with Member States to train and equip units to higher standards of technological capacity. DFS, in partnership with TCCs and other Member States, has established a training academy in Entebbe to augment capacities of military signals units prior to deployment. The Signals Academy aims to standardise the basic curricula for signals units as well as tailored training for specific mission operating environments. This approach will improve the performance and capabilities of signals units, which are increasingly required to deploy in non-permissive environments.

Prototyping, field-testing and evaluating technologies

At present, the capacity of DPKO/DFS to leverage technology and integrate solutions into the operational environment of peacekeeping missions does not sufficiently support a process of identifying new technology opportunities, prototyping, field-testing, evaluating and optimizing these solutions. This is particularly difficult when interoperability requirements apply and/or technologies need to be field tested in harsh environments. As a result, DPKO/DFS must often procure equipment and services that are commercially available on the market for deployment in active field missions without the opportunity for sufficient field-testing and development of standard operating procedures for users. This has presented challenges for effectively incorporating new technologies in support of uniformed capabilities as well as other substantive areas of peacekeeping. In contrast, nearly all military or police forces worldwide test technologies, systems, solutions and procedures intensively before deploying them to live operations. To mitigate this issue, the Partnership for Technology in Peacekeeping is seeking strengthen partnerships with Member States and other entities that could enhance peacekeeping's solution development and testing capacity while remaining fully compliant with procurement rules.

Information security

As peacekeeping operations make increasing use of digital information, persistent concerns have arisen about the capacity of missions to securely and confidentially manage the gathering, storage and ultimate disposition of information. The sustainability of efforts to enhance peacekeeping mission's capabilities in this area will therefore depend on the Organization's capacity to put effective measures in place to satisfy these information management concerns. Information security in peacekeeping is dependent upon two programmes: sensitive information handling policy, training and awareness; and, an ICT infrastructure which ensures protection of information assets within the UN environment. To address the rising amount of digital information in peacekeeping, several steps have been taken including the development of a mandatory online training module on information sensitivity; procedures to automatically classify and protect sensitive information in line with Organizational policy; and an established ICT Security capacity in the GSC working in coordination with OICT to ensure a holistic approach to network and application level security controls and monitoring. This includes the implementation of the Secretariat ICT Security Plan across all field missions. Broader awareness of the risks in managing sensitive information and additional ICT controls are needed. To that end, peacekeeping will be engaging in outreach and assessments of missions handling of sensitive information, and will be implementing digital rights management tools to protect confidential materials.

IV- Key Questions for Consideration

- How can the use of technology be a way to achieve a cost-effective and efficient peacekeeping?
- How can the use of technology enhance the safety and security of UN peacekeeping operations?
- How can the use of technology enhance the tools and capabilities of UN peacekeeping operations to effectively carry out their mandates, in particular to protect civilians?
- How can effective cooperation between, PCCs, TCCs, host countries and the Secretariat be enhanced to reduce the capacities gaps and to promote a responsible use of technology in peacekeeping operations?

- How can concerns about the use of Unarmed Unmanned Aerial Vehicles (UAVS) and drones, in particular the issue of confidentiality and information gathering and monitoring be addressed?
- How can the Security Council support the use of technology by peacekeeping operations by providing the Secretariat with a strong mandate to explore, procure and deploy new solutions?
- What can Member States do to facilitate the enhanced use of "green" technologies?
- How can the Partnership for Technology in Peacekeeping be expanded?
- Can Member States help ensure systematic integration of new technologies through increased efforts to equip and build the capacity of TCCs/PCCs?